

WE CLAIM

1. A method for generating a temporary identifier in a service area of a
2 wireless communication system, said method comprising steps of:
initializing an assignment table;
4 maintaining a counter value;
hashing said counter value to obtain an assignment table index;
6 searching said assignment table for an available entry;
encrypting said counter value to obtain said temporary identifier.
2. The method of claim 1 wherein said service area supports a
2 predetermined number of users.
3. The method of claim 1 wherein said counter value corresponds to a
2 counter of a first predetermined number of bits.
4. The method of claim 3 wherein said encrypting step uses an
2 encryption cipher of a length equal to said first predetermined number of bits.
5. The method of claim 1 wherein said hashing step uses a hash
2 function.
6. The method of claim 1 further comprising a step of storing a
2 subscriber identifier in said available entry.

PA000310

7. The method of claim 1 further comprising a step of storing said
2 counter value in said available entry.

8. The method of claim 1 wherein said temporary identifier is a
2 temporary mobile station identifier.

9. The method of claim 6 wherein said subscriber identifier is an
2 international mobile subscriber identifier.

10. The method of claim 1 wherein said searching step begins at said
2 assignment table index.

11. A method for generating a temporary identifier in a service area of a
2 wireless communication system, said method comprising steps of:
initializing an assignment table;
4 maintaining a counter value;
hashing said counter value to obtain an assignment table index;
6 searching said assignment table for an available entry;
encrypting said counter value and said assignment table index to
8 obtain said temporary identifier.

12. The method of claim 11 wherein said service area supports a
2 predetermined number of users.

13. The method of claim 11 wherein said counter value corresponds to
2 a counter of a first predetermined number of bits.

14. The method of claim 13 wherein said encrypting step uses an
2 encryption cipher of a length equal to said first predetermined number of bits.

15. The method of claim 11 wherein said hashing step uses a hash
2 function.

16. The method of claim 11 further comprising a step of storing a
2 subscriber identifier in said available entry.

17. The method of claim 11 further comprising a step of storing said
2 counter value in said available entry.

18. The method of claim 11 wherein said temporary identifier is a
2 temporary mobile station identifier.

19. The method of claim 16 wherein said subscriber identifier is an
2 international mobile subscriber identifier.

20. The method of claim 11 wherein said searching step begins at said
2 assignment table index.

21. A wireless communication system comprising:

- 2 means for mobile switching;
- means for registering a visitor location;
- 4 means for storing and assigning a plurality of subscriber identifiers;
- means for maintaining a counter value;
- 6 means for encrypting and generating a temporary identifier.

22. The wireless communication system of claim 21 wherein said means

- 2 for storing and assigning a plurality of subscriber identifiers further comprises
- means for storing a plurality of counter values.

23. The wireless communication system of claim 21 wherein said means

- 2 for storing and assigning a plurality of subscriber identifiers comprises an
- international mobile station identifier.

24. The wireless communication system of claim 21 wherein said

- 2 temporary identifier is a temporary mobile station identifier.

25. The wireless communication system of claim 21 wherein said

- 2 means for encrypting and generating a temporary identifier encrypts said counter
- value.

26. The wireless communication system of claim 21 further comprising
2 means for performing a hash function.

27. The wireless communication system of claim 26 wherein said
2 means for performing a hash function is configured to hash said counter value to
produce an assignment table index.

28. The wireless communication system of claim 27 wherein said
2 means for encrypting encrypts said assignment table index.

29. A method for generating a temporary identifier in a service area of a
2 wireless communication system, said method comprising steps of:

initializing an assignment table;

4 maintaining a counter value;

hashing said counter value to obtain an assignment table index;

6 searching said assignment table for an available entry;

encrypting said counter value and said assignment table index to

8 obtain said temporary identifier;

storing a subscriber identifier and said counter value in said available

10 entry.

30. The method of claim 29 wherein said service area supports a
2 predetermined number of users.

PA000310

31 The method of claim 29 wherein said counter value corresponds to
2 a counter of a first predetermined number of bits.

32. The method of claim 31 wherein said encrypting step uses an
2 encryption cipher of a length equal to said first predetermined number of bits.

33. The method of claim 29 wherein said hashing step uses a hash
2 function.

34. The method of claim 29 wherein said temporary identifier is a
2 temporary mobile station identifier.

35. The method of claim 29 wherein said subscriber identifier is an
2 international mobile subscriber identifier.

36. The method of claim 29 wherein said searching step begins at said
2 assignment table index.

37. A computer readable medium including a computer program, said
2 computer program implementing a method for generating a temporary identifier
in a service area of a wireless communication system, said computer program
4 comprising:

a first code segment for initializing an assignment table;

PA000310

- 6 a second code segment for maintaining a counter value;
a third code segment for obtaining an assignment table index;
- 8 a fourth code segment for searching said assignment table for an
available entry;
- 10 a fifth code segment for encrypting said counter value to obtain said
temporary identifier.

38. The computer readable medium of claim 37 wherein said fifth code
2 segment comprises an encryption cipher corresponding to said counter value.

39. The computer readable medium of claim 37 wherein said third code
2 segment comprises a hash function for hashing said counter value to obtain said
assignment table index.